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ABSTRACT

This is one of a series of reports which provide definitions of and descriptive data on the variables used in the Comparative Study of Phase IV of the Individually Guided Education (IEG) Evaluation Project. Phase IV investigated three curriculum programs specifically designed to be compatible with instructional programming for the individual student: (1) the Wisconsin Design for Reading Skills Development (WDRSD); (2) Developing Mathematical Processes (DMP); and (3)Prereading Skills (PRS). Information on instructional methods and pupil outcomes for grades 2 and 5 was collected from achievement monitoring and domain referenced tests, teacher logs, and classroom observations. This report uses information from the teacher logs and focuses on the allocated time variable. Allocated time represents the total amount of planned instruction in reading skills and mathematics objectives. Results for each school and for each curriculum/school type group are presented in separate tables for each grade and curriculum area. (BS)

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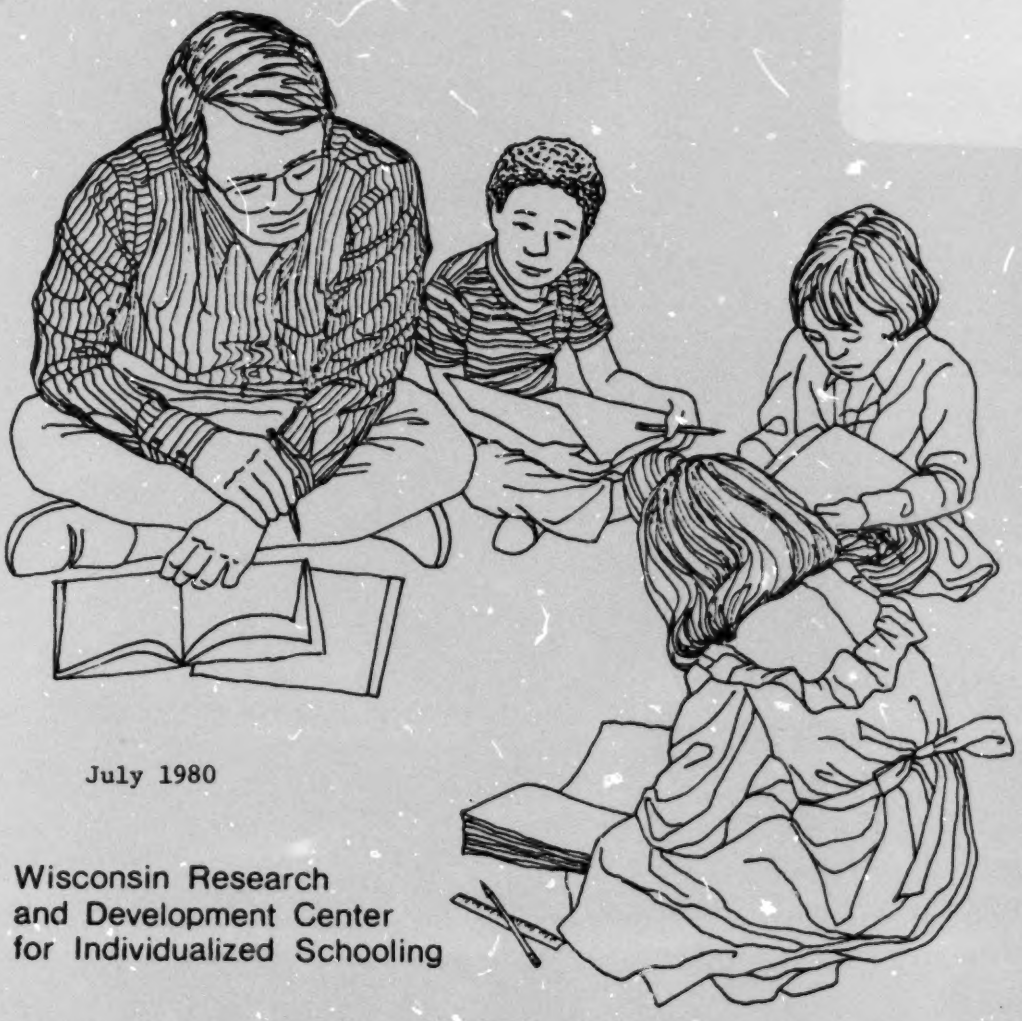
Phase IV
Project Paper 80-4

DATA ON LOG ALLOCATED TIME FOR 11 READING AND 8 MATH SCHOOLS

COMPARATIVE STUDY OF PHASE IV IGE EVALUATION PROJECT

by Anne G. Nerenz and Norman L. Webb



July 1980

Wisconsin Research
and Development Center
for Individualized Schooling

TM 840 806

Phase IV

Project Paper 80-4

DATA ON LOG ALLOCATED TIME FOR 11 READING AND 8 MATH SCHOOLS

COMPARATIVE STUDY OF PHASE IV IGE EVALUATION PROJECT

by

Anne G. Nerenz
Norman L. Webb

Report from the
IGE Evaluation Project

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The University of Wisconsin-Madison
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July 1980

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- conducting and synthesizing research to clarify the processes of school-age children's learning and development
- conducting and synthesizing research to clarify effective approaches to teaching students basic skills and concepts
- developing and demonstrating improved instructional strategies, processes, and materials for students, teachers, and school administrators
- providing assistance to educators which helps transfer the outcomes of research and development to improved practice in local schools and teacher education institutions

The Wisconsin Research and Development Center is supported with funds from the National Institute of Education and the University of Wisconsin.

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CENTER FOR INDIVIDUALIZED SCHOOLING

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Abstract

This report is one in a series of papers which provides a definition of and descriptive information on the variables used in the comparative study of Phase IV of the IGE Evaluation Project. Specifically, it focuses on a single variable - allocated time - and includes information on the content of math and reading skills instruction during the 25-week investigation period. A more detailed discussion of the design of the study and the expected relationships of other variables is available in Paper 80-2 (Romberg, Webb, Stewart, and Nerenz, 1980) and readers might find that report helpful in understanding the data presented here.

I

Introduction

The IGE Evaluation Project has as a central objective the identification of features of IGE schooling which contribute to successful instruction, especially in reading skills and mathematics. Although the first four phases of this project focused on different aspects of IGE, they were designed to provide complimentary data bases resulting in a comprehensive description of this form of schooling. With this goal in mind Phase IV was designed to supplement information on a small number of curricular and instructional variables. That is, whereas these phases investigated organizational, system, general means of instruction, and general achievement variables, the main purpose of Phase IV was to investigate the three R & D Center-produced curriculum programs whose instructional procedures and materials were specifically designed to be compatible with instructional programming for the individual student. These programs are the Wisconsin Design for Reading Skills Development (WDRSD), (Otto, 1977); Developing Mathematical Processes (DMP), (Romberg, 1977); and Prereading Skills (PRS), (Venezky and Pittelman, 1977).

Phase IV was divided into two parts--the Descriptive Study and the Comparative Study--and information on the design and procedures used during each portion may be found in Project Papers 79-42, 80-2, and (Webb and Romberg, 1979) (Romberg, Webb, Stewart, and Nerenz, 1980). Briefly, each part was designed to provide detailed information on two

variables--means of instruction and pupil outcomes--using achievement monitoring and domain referenced tests, teacher logs, and classroom observations. In addition, a smaller amount of information on background, organizational, and program variables was obtained using principal, unit leader, and teacher interviews.

This paper reports information obtained from the teacher logs and focuses on the allocation of time to reading skills and mathematics general objectives. The variable - Allocated Time - is defined as follows:

> Allocated Time is the amount of time in minutes which is designated for instruction in reading skills or mathematics; it represents the total amount of planned instruction in these content areas.

In that the procedure used in aggregating the numerous skills and objectives into a smaller number of content areas is described in Report 80-3 (Nerenz, Webb, and Stewart, 1980), that report may also be useful in clarifying the substance of the categories discussed here.

II

A Comparison of the Phase I and Phase IV Models

A structural model for predicting student achievement was developed for Phase I and is shown in Figure 1 (Price, Janicki, Howard, Stewart, Buchanan, & Romberg, 1978). This model was developed from the three premises on which IGE is based. They are:

1. Certain organizational features make it more likely that certain desirable instructional practices will occur. These organizational features also make it more likely that the staff will be satisfied with their jobs.

2. The use of certain curriculum materials and associated systems of information collection and record keeping makes it more likely that certain desirable instructional practices will occur.

3. Those instructional practices which are deemed desirable in IGE make high student achievement more likely. They also make it more likely that desirable changes in other student characteristics, such as self-perception and locus of control, will occur.

Data on the first premise were organized into six variables: Inter-organizational Relations (IOR), Procedures Fostering Coordination and Improvement of the School Program (GOS), Intraorganizational Structure (IOS), General Staff Background (GSB), Belief in Individual Differences (IND), and General Implementation of the Instructional Programming Model (IPM). These describe in detail the organizational structure and staff background in the school. Four variables were developed in response to the second premise. These are: Utilization of Curriculum Resources (UCR) Information Acquisition (IH), Individuali-

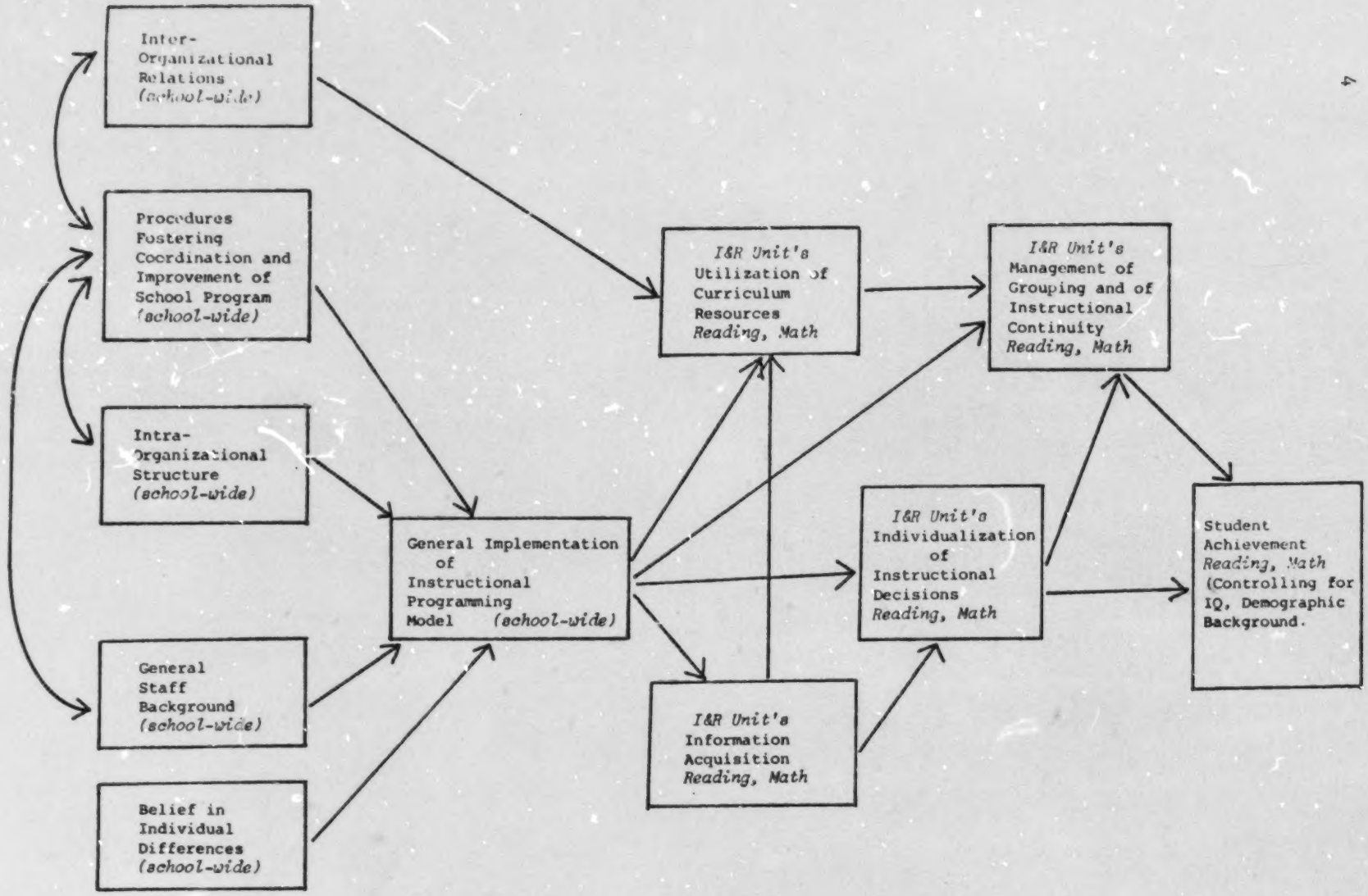
Inter-Organizational Relations (school-wide)
Procedures Fostering Coordination and Improvement of School Program (school-wide)
Intra-Organizational Structure (school-wide)
General Staff Background (school-wide)
Belief in Individual Differences (school-wide)
General Implementation of Instructional Programming Model (school-wide)
I&R Unit's Utilization of Curriculum Resources Reading, Math
I&R Unit's Information Acquisition Reading, Math
I&R Unit's Individualization of Instructional Decisions Reading, Math
I&R Unit's Management of Grouping and of Instructional Continuity Reading, Math
Student Achievement Reading, Math (Controlling for IQ, Demographic Background.

Figure 1. Phase I structural model predicting student achievement.

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zation of Instructional Decisions (IDM), and Management of Grouping and of Instructional Continuity (IE). A single variable--Student Achievement--includes the pupil outcomes discussed in the third premise. With the exception of the achievement measures, data on all of the variables in the Phase I model were collected using teacher, general staff, and principal questionnaires.

In contrast, Phase IV was designed to provide more detail on the last two premises posed in Phase I with specific attention paid to means of instruction and curriculum related student achievement. Sufficient background information was also collected so that each school in the smaller Phase IV sample might be related on several significant dimensions to schools in the larger Phase I sample as a whole. Thus, some information was collected on four of the six schoolwide variables used in Phase I--General Implementation of the Instructional Programming Model (IPM), Intraorganizational Structure (ICS), Procedures Fostering Coordination and Improvement of the School Program (GOS), and Interorganizational Relations (IOR)--as well as one of the four curricular variables--Utilization of Curriculum Resources (UCR). For the second curricular variable for which data were obtained--Management of Grouping and of Instructional Continuity (IE)--considerably more detailed information was obtained in Phase IV than in Phase I, as is also the case for the Pupil Achievement Variables. A model depicting the Phase IV variables and the anticipated relationships is shown in Figure 2.

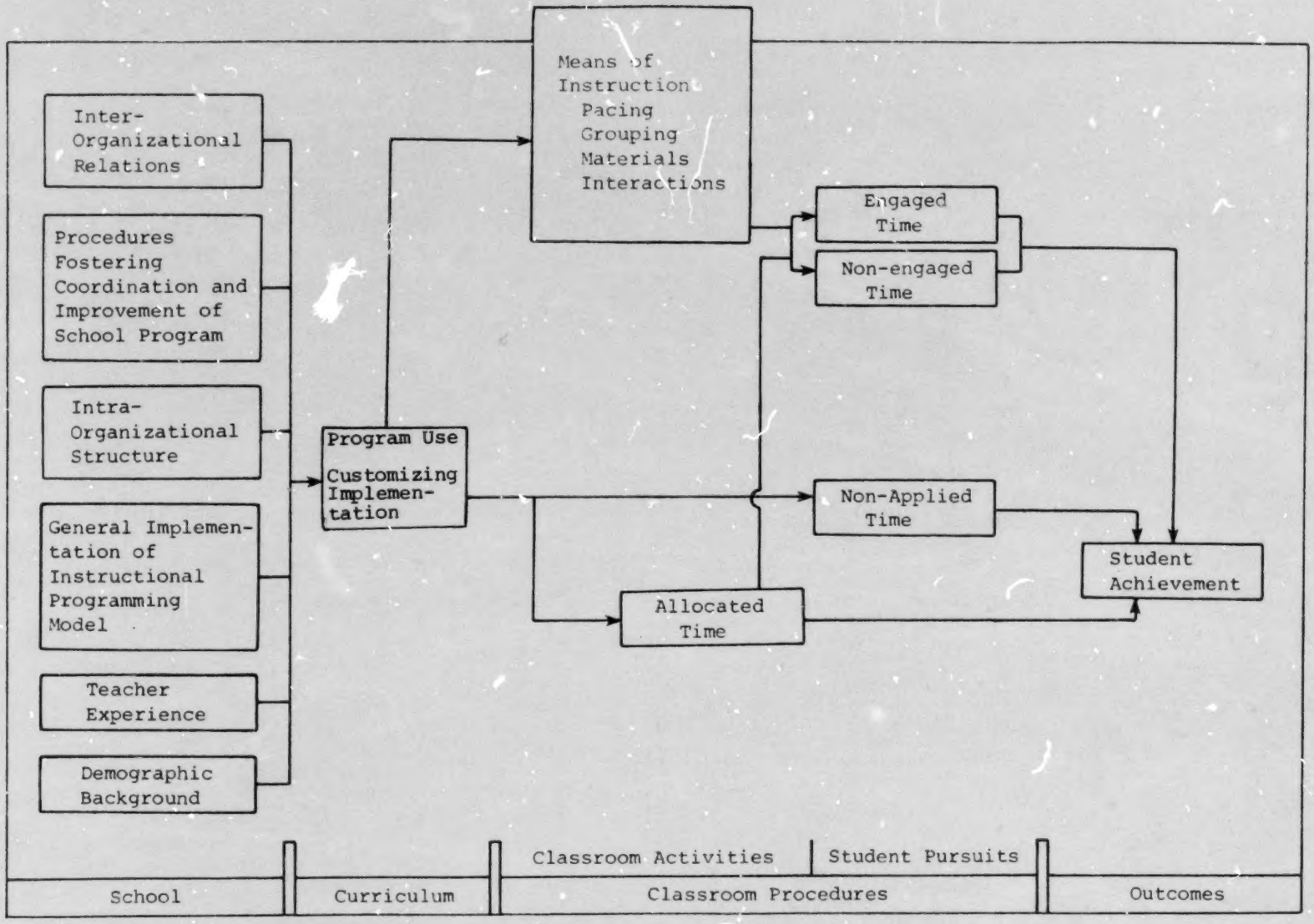

Figure 2. Phase IV model of anticipated relationships between variables.

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III

Results and Discussion

As indicated in the model, allocated time is conceived of as being influenced by such factors as program use and school type. Results for each school and for each curriculum/school type group are presented in separate tables for each grade and curriculum area. Included in each table, for each school participating, are the total hours allocated to the students for whom logs were maintained by general objective for each period and the percentage of the total time allocated. The hours are rounded to one decimal place and the percentages are rounded to the nearest percent. The total time allocated, as reported on the logs, is given in the last column. In making comparisons across schools it should be kept in mind that the number of students for whom logs were maintained varied by school. The number of students for whom logs were maintained varied by school. The number of students for each school is reported below each school number. A more valid comparison to make directly from the information given in the table is that of thepercentages of time allocated to each general objective. Generally the number of weeks in each period was four; however, this varied by period and should be considered when comparing across periods. In the remaining part of this section, brief interpretations are given for each table.

Reading, Grade 2. From the information reported in Table 1 for Period A, there are some differences among the three groups of schools. The IGE/WDRSD schools allocated, on the average, almost 90% of the reading

Table 1

Allocated Time and Percentage from the Teacher Logs
for Reading Skills, General Objectives
Grade

Content code
and Descrip
(Hours,

Pupil's Type and Number	1 Phonic Analysis-- Consonants	2 Phonic Analysis-- Vowels	3 Phonic Analysis-- Silent Letters	4 Structural Analysis	5 Vocabulary Meaning	6 Map Skills	7 Graph and Table Skills	8 Reference Skills	9 Word Meaning Skills	10 Sentence Meaning Skills	11 Passage Meaning Skills	12 General Reading	Total Allocated Time
Period A													
IGE/WDRSD													
466 6*	4.0,11	2.0, 6		28.3,81									34.3
451 7		12.4,54	10.0,43										22.4
476 6	9.0,48			9.0,48									18.0
507 8		7.5,23		12.1,35						9.6,29	3.3,10		32.5
Mean	3.2,15	5.5,21	2.5,11	12.4,41						2.4, 7	0.8,2		26.8
IGE/Non-WDRSD													
772 6	9.8,10	23.8,24		13.8,14	2.1, 2	3.5, 4		8.5, 9	7.4, 7	1.9, 2	10.6,11	17.2,17	98.6
410 6		2.2, 7									5.7,18	23.0,74	30.9
493 6	5.6,13	2.5, 6	1.0, 2	5.9,14	4.1,10	0.3, 1		1.2, 3	1.8, 4	1.2, 3	3.9, 9	14.7,34	42.2
Mean	5.1, 8	9.5,12	0.3, 1	6.6, 9	2.1, 4	1.3, 2		3.2, 4	3.1, 4	1.0, 2	6.7,13	18.3,42	57.2
Non-IGE/WDRSD													
900 8	2.3,10				2.3,10	8.0,35	9.0,40						21.6
902 6	7.5,18	2.5, 6			5.0,12	24.0,56							39.0
901 6		28.2,39			2.8, 4	30.7,42	1.7, 2	2.0, 3			3.8, 5	3.8, 5	73.0
413 10		9.2,19		10.4,22	4.6,10				3.3, 7	7.2,15	12.5,26		47.2
Mean	2.4, 7	10.0,16		2.6, 6	3.7, 9	15.7,33	2.7,10	0.5, 1	0.8, 2	1.8, 4	4.1, 8	1.0, 1	45.2

* Number of students logged.

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Table 1 (continued)

Allocated Time and Percentage from the Teacher Lots
for Reading Skills General Objectives
Grade 2

School Type and Number	1 Phonic Analysis--Consonants	2 Phonic Analysis--Vowels	3 Phonic Analysis--Silent Letters	4 Structural Analysis	5 Vocabulary Meaning	6 Map Skills	7 Graph and Table Skills	8 Reference Skills	9 Word Meaning Skills	10 Sentence Meaning Skills	11 Passage Meaning Skills	12 General Reading	Total Allocated Time
	Content Code and Description (Hours, %)												
	Period B												
IGE WDRSD													
466 6		5.0,17		23.5,80									28.5
476 6											17.4,98		17.4
476 10	9.0,22	24.0,60											33.0
547 8	11.0,24	12.7,28		12.7,28									36.4
Mean	5.0,12	10.4,26		9.0,27							4.4,24		28.8
IGE/Non-WDRSD													
372 6	15.8, 8	48.6,25	0.3, 0+	21.9,11	5.2, 3	4.2, 2		9.6, 5	18.6, 9	9.4, 5	16.7, 8	42.0,21	192.3
410 6	3.2, 5	8.5,14							2.0, 3		3.0, 5	45.5,73	62.2
493 6	8.3,11	5.5, 7	1.0, 1	10.6,14	3.1, 4	0.6, 1		2.2, 3	2.2, 3	3.6, 5	9.5,12	29.3,38	75.9
Mean	9.1, 8	20.9,15	0.4, 0+	10.8, 8	2.8, 2	1.6, 1		3.9, 3	7.6, 5	4.3, 3	9.7, 8	38.9,44	110.1
Non-IGE/WDRSD													
800 8		2.0, 6	5.7,22	8.0,31		4.0,15	5.0,19						24.7
802 6	21.0,56	16.0,43											37.0
811 6		21.2,20			1.0, 1	37.8,35		9.2, 8	1.2, 1		6.2, 6	28.4,26	105.0
403 6	2.5,12	10.2,50		6.1,30	0.4, 2								19.2
Mean	5.9,17	12.4,30	1.4, 6	3.5,15	0.4, 1	10.4,12	1.2, 5	2.3, 2	0.3, 0+		1.6, 2	7.1, 6	46.5

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Table 1 (continued)

Allocation Time and Intervention Sequence for Teacher Aids for Reading Skills Content Objectives
Grade 1

Content Code and Description (Hours)

Group, Pair and Number	Phonic Analysis - Consonants	Phonic Analysis - Vowels	Phonic Analysis - Silent Letters	Structural Analysis	Vocabulary Skills	Map Skills	Graph and Table Skills	Reference Skills	Word Meaning Skills	Sentence Meaning Skills	Passage Meaning Skills	General Reading	Total Allocated Time
					Period C								
IGE WDRSD													
456 6		12.0,43		12.0,43									24.0
451 9		12.0,49				12.0,49							24.0
476 10	24.0,63	8.0,21		4.0,10									36.0
507 8	3.5, 6	20.1,33		3.3, 5			14.8,24			4.2, 7	14.5,24		60.4
Mean	6.9,17	13.0,36		4.8,14		3.0,12	3.7, 6			1.0, 2	3.6, 6		36.1
IGE/Non-WDRSD													
370 6	29.4,13	48.5,22		29.2,13	13.1, 6	1.0, 0+		7.9, 4	16.9, 6	3.0, 1	16.1, 7	50.1,23	215.2
410 6		11.0,17		0.2,0+							8.4,13	46.0,70	65.6
493 6	10.7,10	8.7, 8	0.8, 1	14.2,13	3.9, 4	0.2, 0+		0.8, 1	3.4, 3	3.3, 3	8.2, 8	43.7,42	97.9
Mean	13.4, 6	22.7,16	0.3, 0+	14.5, 9	5.7, 3	0.4, 0+		2.9, 2	6.8, 3	2.1, 1	10.9, 9	46.6,45	126.2
Non-IGE/WDRSD													
900 8		0.7, 3	2.0, 8	2.7,10		15.3,60		2.3, 9					23.0
902 6				5.0,12	8.5,21	27.0,66							40.5
901 7		46.8,34		2.5, 2	3.8, 3	6.0, 4	15.5,11	5.8, 4	0.7, 0+	1.3, 1	14.5,10	39.4,28	136.3
903 6	0.4, 2	14.2,67		1.3, 6	4.2,20								20.1
Mean	0.1 0+	15.4,26	0.5, 2	2.9, 2	4.1,11	12.1,32	3.9, 3	20.0, 3	0.2, 0+	0.3, 0+	3.6, 2	9.8, 7	55.0

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Table 1 (continued)

Allocated Time and Percentage from the Teacher Logs
for Reading Skills General Directives
Task 2

Content Code and Description (Hours, %)	1 Phonic Analysis--Consonants	2 Phonic Analysis--Vowels	3 Phonic Analysis--Silent Letters	4 Structural Analysis	5 Vocabulary Meaning	6 Map Skills	7 Graph and Table Skills	8 Reference Skills	9 Arithmetic Meaning Skills	10 Sentence Meaning Skills	11 Passage Meaning Skills	12 General Reading	Total Allocated Time
Period D													
IAE WORSD													
400 6	10.0,19	16.0,31		5.0,10							20.5,39		51.5
451 6	-	-	-	-	-	-	-	-	-	-	-	-	-
476 10		8.0,19		32.0,76									40.0
[illegible] 8		16.1,44		2.1, 6		2.1, 6	0.8, 2			3.8,11	11.2,31		35.1
Mean	3.3, 6	13.4,31		13.0,31		0.7,2	0.3, 1			1.3, 4	10.6,23		42.5
IAE/Non-WORSD													
[illegible] 6	42.1,20	16.5, 8		31.0,15	5.2, 3	1.9, 1		4.9, 2	24.5,12	4.6, 2	15.6, 8	56.3,27	202.6
[illegible] 6	3.9,5	5.5,10	1.0, 2					0.5, 1	2.0, 4		12.0,21	33.0,58	57.0
441 6	10.6,11	9.5, 9	0.2, 0+	9.6,10	4.1, 4	2.2, 2	3.2, 3	1.1, 1	1.6, 2	4.0, 4	6.5, 6	34.9,35	87.5
Mean	18.6,12	10.5, 9	0.4, 1	13.5, 8	3.1, 2	1.4, 1	1.1,1	2.2, 1	9.4, 6	2.9, 6	11.4,12	41.4,40	115.7
Non-IAE WORSD													
900 8	1.7, 9	3.3,17	5.0,26	3.3,17									13.3
902 6	4.5,10			14.5,32		25.0,56							44.0
[illegible] 6		19.2,13		12.1, 8		15.5,11	5.0, 3	1.8, 1	10.3, 7		18.3,12	56.8,39	139.0
903 -	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean	2.1, 6	7.5,10	1.7, 9	8.9,19		13.5,22	1.7, 1	0.6, 0+	3.4, 2		6.1, 4	18.9,13	65.4

Table 1 (continued)

Allocated Time and Percentage from the Teacher Logs
for Reading Skills General Objectives
Grade 2

School Type and Number	01 Phonic Analysis--Consonants	02 Phonic Analysis--Vowels	03 Phonic Analysis--Silent Letters	04 Structural Analysis	05 Vocabulary Meaning	06 Map Skills	07 Graph and Table Skills	08 Reference Skills	09 Word Meaning Skills	10 Sentence Meaning Skills	11 Passage Meaning Skills	12 General Reading	Total Allocated Time
	Content Code and Description (Hours, %)												
Period E													
IGE/WDRSD													
466 6	6.0,14	3.5, 8		10.5,25						8.0,19	14.0,33		42.0
451 7					24.0,89								24.0
476 10		6.0,17		28.0,77									34.0
507 8		18.5,44		4.8,11						4.3,10	14.2,34		41.8
Mean	1.5, 4	7.0,17		10.8,28	6.0,22					3.1, 7	7.0,17		35.4
IGE/Non-WDRSD													
372 6	28.8,13	31.0,14	0.2,0+	24.7,11	8.9, 4			6.7, 3	40.1,18	8.7, 4	21.1, 9	54.4,24	224.6
410 6	2.0, 4	1.0, 2		3.5, 7	2.0, 4			1.0, 2	2.0, 4		10.0,19	25.0,47	46.5
493 6	10.4,11	11.5,12	0.3,0+	12.7,13	5.0, 5	1.6, 2		0.8, 1	3.3, 3	3.8, 4	10.3,11	35.0,37	94.7
Mean	13.7, 9	14.5, 9	0.2,0+	13.6,10	5.3, 4	0.5, 1		2.8, 2	15.1, 2	4.2, 3	13.8, 3	38.1,36	121.9
Non-IGE/WDRSD													
900 8	2.0, 8	2.0, 8	1.0, 4	3.0,12		4.3,18	6.8,28						19.1
902 6		4.5,20		17.5,79									22.0
901 6		0.7,0+		16.2,12	7.7, 6	20.0,14		2.0, 1	4.3, 3	12.3, 9	25.3,18	43.0,31	131.5
903 6				13.3,66	6.7.33								20.0
Mean	0.5, 2	1.8, 7	0.2, 1	12.5,42	3.6,10	6.1, 8	1.7, 7	0.5, 0+	1.1, 1	3.1, 2	6.3, 4	10.8, 8	48.2

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Table 1 (continued)

Allocated Time and Percentage from the Teacher Logs
for Reading Skills General Objectives
Grade 2

Content Code
and Description
(Hours, %)

Type and Number	01 Phonic Analysis--Consonants	02 Phonic Analysis--Vowels	03 Phonic Analysis--Silent Letters	04 Structural Analysis	05 Vocabulary Meaning	06 Map Skills	07 Graph and Table Skills	08 Reference Skills	09 Word Meaning Skills	10 Sentence Meaning Skills	11 Passage Meaning Skills	12 General Reading	Total Allocated Time
Period F													
IGE WDRSD													
466 6	14.0,37	7.5,20									16.0,42		37.5
451 11		3.0,11								6.0,22	9.0,33		18.0
476 10	3.0, 9	2.0, 6		25.0,77									30.0
507 8		27.5,56		2.1, 4		2.3, 5	15.8,32						47.7
Mean	4.2,12	10.0,23		6.8,20		0.6, 1	4.0, 8			1.5, 6	6.2,19		33.3
IGE/Non-WDRSD													
372 6	11.3, 6	24.7,14		39.9,22	9.9, 5	1.3, 1		4.3, 2	24.3,13	7.2, 4	9.4, 5	45.0,25	177.2
410 6		11.0,17	1.0, 2	15.5,25	3.5, 6			1.5, 2				30.5,48	63.0
493 6	9.4,10	9.9,10		10.6,11	4.0, 4	0.3, 0+	0.3, 0+	1.3, 1	4.8, 5	3.0, 3	12.3,13	40.5,42	96.3
Mean	6.9, 5	15.2,14	0.3, 1	22.0,19	5.8, 5	0.5, 0+	0.1, 0+	2.4, 2	9.7, 6	3.4, 2	7.2, 6	38.7,38	112.2
Non-IGE/WDRSD													
900 8						5.0,15	9.2,27						14.2
902 9		22.0,33		30.0,45		10.0,15	5.0, 7						67.0
901 6		1.7, 2		16.0,16	4.6, 5	7.2, 7				4.0, 4	11.0,11	45.7,46	90.2
903 7				1.7, 6	1.7, 6						21.7,83		25.1
Mean		5.9, 9		11.9,17	1.6, 3	5.6, 9	3.6, 8			1.0, 1	8.2,24	11.4,12	49.1

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Table 1 (continued)

Allocated Time and Percentage from the Teacher Logs
for Reading Skills General Objectives
Grade 2

Content Code
and Description
(Hours, %)

Class Title and Number	01 Phonic Analysis--Consonants	02 Phonic Analysis--Vowels	03 Phonic Analysis--Silent Letters	04 Structural Analysis	05 Vocabulary Meaning	06 Map Skills	07 Graph and Table Skills	08 Reference Skills	09 Word Meaning Skills	10 Sentence Meaning Skills	11 Passage Meaning Skills	12 General Reading	Total Allocated Time
Period 6													
IGE WDRSD													
466 6	16.0,32	12.0,24		2.0, 4						6.0,12	13.5,27		49.5
451 12	6.0,22											18.0,65	24.0
476 10	25.0,60	8.0,19	1.0, 2	4.0,10	2.0, 5								40.0
507 8		11.3,15		18.2,23	5.0, 6	22.5,29				5.5, 7	15.0,19		77.5
Mean	11.8,28	7.8,14	0.2, 0+	6.0, 9	1.8, 3	5.6, 7				2.9, 5	7.1,12	4.5,16	47.8
IGE/Non-WDRSD													
372 6	32.6,11	39.1,13		61.0,21	3.3, 1	0.8, 0+		4.2, 1	39.2,13	6.2, 2	24.7, 8	67.5,23	278.6
410 6	6.5, 7	6.5, 7	1.0, 1	4.0, 5	1.5, 2			2.0, 2	6.5, 7	3.5, 4	3.5, 4	52.0,60	87.0
493 6	7.5, 7	5.9, 5	0.6, 0+	7.3, 6	2.1, 2	1.5, 1	0.3, 0+	1.2, 1	2.6, 2	2.6, 2	11.8,10	42.1,37	85.5
Mean	15.5, 8	17.2, 8	0.5, 0+	24.1,11	2.3, 2	0.8, 0+	0.1, 0+	2.5, 1	16.1, 7	4.1, 3	13.3, 7	53.9,40	150.4
Non-IGE/WDRSD													
900 8				14.0,49	4.3,15								18.3
902 13		24.0,20	8.0, 7	34.0,28		41.5,34		13.5,11					121.0
901 6	18.0, 8	8.2, 4		6.7, 3	18.5, 8	2.0, 1	31.2,14	10.0, 5	5.0, 2	27.8,13	12.0,13	61.5,28	200.9
903 6										6.8,33	13.3,64		20.1
Mean	4.5, 2	8.0, 6	2.0, 2	13.7,20	5.7, 6	10.9, 9	7.8, 4	5.9, 4	1.2, 0+	8.6,12	6.3,17	15.4, 7	90.1

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skills time to Word Attack skills, general objectives 01-04. Two of the three IGE/non-WDRSD schools allocated time to all but one or two of the general objectives. One reason for this is that logs were maintained for the total reading period instead of just instructional time allocated to reading skills, explaining why School 372 has such a large amount of total allocated time. The non-IGE/WDRSD schools allocated most of the time to Word Attack skills and Study Skills, general objectives 05-08. While there is some variation within each group of schools, it appears that certain similarities do exist regarding the content covered by each of the three groups.

Over the seven periods some change occurred as to how time was allocated. As the year proceeded the schools using WDRSD allocated less time to Word Attack skills and more time to Study Skills and Comprehension. There were some exceptions, however, such as School 476 which allocated time to Word Attack skills over the entire investigative period. The amount of time allocated to different general objectives at the IGE/non-WDRSD schools did not vary greatly by period: for each period at these schools, nearly 40% of the time was allocated to general reading. More time was allocated to some of the Study Skills and Comprehension at School 410 in the later periods.

Reading, Grade 5. As can be expected, little instructional time was allocated to Word Attack skills by any of the schools (Table 2). Most of the time in Period A for IGE/WDRSD schools was allocated to

Table 2

Allocated Time and Percentage from the Teacher Logs
for Reading Skills General Objectives
Grade 5

Content Code and Description (Hours, %)													
School Participant Number	01 Phonic Analysis--Consonants	02 Phonic Analysis--Vowels	03 Phonic Analysis--Silent Letters	04 Structural Analysis	05 Vocabulary Meaning	06 Map Skills	07 Graph and Table Skills	08 Reference Skills	09 Word Meaning Skills	10 Sentence Meaning Skills	11 Passage Meaning Skills	12 General Reading	Total Allocated Time
Period A													
IGE/WDRSD													
406 6	3.0,14								14.0,66				17.0
451 9								2.5,22	7.6,67				10.1
4[illegible] 8						13.8,54	4.5,18						18.3
5[illegible] 6						7.1,39		8.8,48					15.9
Mean	0.8, 4					5.2,23	1.1, 4	2.8,18	5.4,33				15.3
IGE/Non-WDRSD													
372 6	3.0, 4	7.1, 9	0.2, 0+	8.2,10	0.8, 1	0.4, 0+		7.5, 9	9.1,11	1.0, 1	13.7,17	30.6,37	81.6
410 6		0.5, 1		5.0, 7	1.7, 2	6.0, 9	2.0, 3	19.0,27	2.5, 4	2.0, 3	2.0, 3	29.5 ,42	70.2
493 8				2.5, 4	0.1, 0+	1.8,3		6.1,10	4.2, 7	3.2, 5	1.5, 2	42.5,67	61.9
Mean	1.0, 1	2.5, 3	0.1, 0+	5.2, 7	0.9, 1	2.7, 4	0.7, 1	10.9,15	5. 3, 7	2.1, 3	5.7, 7	34.2,49	71.2
Non-IGE/WDRSD													
900 8							4.3,49	2.8,33					7.1
902 9						18.3,38		3.5, 7	16.5,34		4.5, 9		43.0
901 6		7.7,10		5.8, 8		3.3, 4		22.3,30	6.8, 9	0.4, 0+	6.7, 9	21.8,29	74.8
903 6									0.4, 3	0.8, 6	11.4,83		12.6
Mean		1.9,2		1.4, 2		5.4,10	1.1,12	7.2,18	5.9,12	0.3, 2	5.6,25	5.5, 7	34.4

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Table 3 (continued)

Allocated Time and Percentage from the Teacher Logs
for Reading Skills General Objectives
Grade 8

Content Code
and Description
(Hours, %)

School Type and Number	01 Phonic Analysis--Consonants	02 Phonic Analysis--Vowels	03 Phonic Analysis--Silent Letters	04 Structural Analysis	05 Vocabulary Meaning	06 Map Skills	07 Graph and Table Skills	08 Reference Skills	09 Word Meaning Skills	10 Sentence Meaning Skills	11 Passage Meaning Skills	12 General Reading	Total Allocated Time
Period B													
IGE/WDRSD													
446 6			2.5,16	6.0,37							6.0,37		14.5
451 7								7.7,43			9.0,51		16.7
476 8						7.5,20	18.3,48	0.8, 2					26.6
507 11						0.9, 3		1.2, 3	2.5, 7		28.8,80		33.4
Mean			0.6, 4	1.5, 9		2.1, 6	4.6,12	2.4,12	0.6, 2		11.0,42		22.8
IGE/Non-WDRSD													
372 6	6.8, 6	7.8, 6		6.4, 5	0.6, 0+	1.2, 1	0.7, 0+	14.4,12	13.6,11	5.8, 5	16.7,14	46.7,39	120.7
413 6				4.9, 6	9.8,11			7.6, 9	6.7, 8	2.3, 3	9.9,12	41.6,48	82.8
493 8	1.0, 1			8.0, 8	5.9, 6	0.2, 0+	0.2, 0+	10.5,10	9.4, 9	0.1, 0+	17.2,16	41.2,39	93.7
Mean	2.6, 2	2.6, 2		6.4, 6	5.4, 6	0.5, 0+	0.3, 0+	10.8,10	9.9, 9	2.7, 3	14.6,11	43.2,42	99.1
Non-IGE/WDRSD													
900 8							6.7,39	5.0,29					11.7
902 8									37.0,88		4.0,10		41.0
901 6	0.7, 1	1.0, 1		8.7,10		3.7, 4	6.7, 8	9.2,11	10.0,12	1.2, 1	3.8, 4	32.8,38	77.8
903 6											16.7,93		16.7
Mean	0.2, 0+	0.2, 0+		2.2, 2		0.9,13	3.4,12	3.6,10	11.8,25	0.3, 0+	6.1,27	8.2,10	36.8

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Table 2 (continued)

Allocated Time and Percentage [illegible] the Teacher Logs
for Reading Skills General Objectives
Grade 5

School Type and Number	01 Phonic Analysis--Consonants	02 Phonic Analysis--Vowels	03 Phonic Analysis--Silent Letters	04 Structural Analysis	05 Vocabulary Meaning	06 Map Skills	07 Graph and Table Skills	08 Reference Skills	09 Word Meaning Skills	10 Sentence Meaning Skills	11 Passage Meaning Skills	12 General Reading	Total Allocated Time
	Content Code and Description (Hours, %)												
	Period C												
IGE/WDRSD													
466 6				8.0,63				2.0,16			2.0,16		12.0
451 12						13.0,72						4.0,22	17.0
476 8							15.2,26	9.5,16		0.5, 1	1.0, 2	6.8,11	33.0
507 8							23.3,51				21.2,46		44.5
Mean				2.0,16		3.2,18	9.6,19	2.9, 8		0.1, 0+	6.0,16	2.7, 8	26.6
IGE/Non-WDRSD													
372 6	10.0, 7	13.5,10	0.3, 0+	8.5, 6	2.2, 2	0.8, 1		12.7, 9	11.2, 8	9.4, 7	20.2,15	44.0,33	132.8
410 6		3.2, 2	2.5, 2	19.9,15	11.9, 9	1.0, 1		8.5, 7	11.8, 9	2.8, 2	14.5,11	50.8,39	126.9
493 8		0.1, 0+		7.8, 6	3.4, 2	0.2, 0+	0.2, 0+	16.2,12	6.3, 5	3.4, 2	10.3, 8	70.8,52	118.7
Mean	3.3, 2	5.6, 4	0.9, 1	12.1, 9	5.8, 4	0.7, 1	0.1, 0+	12.5, 9	9.8, 7	5.2, 4	15.0,11	55.2,41	126.1
Non-IGE/WDRSD													
900 8						13.0,29		7.5,17					20.5
902 10						37.0,62		22.5,38					59.5
901 6		3.4, 3		15.2,12		0.8, 1	5.0, 4	22.7,18	18.7,15	5.5, 4	15.7,13	24.3,20	111.3
903 6				4.0,12						9.5,29	17.8,55		31.3
Mean		0.8, 1		4.8, 6		12.7,23	1.2, 1	13.2,18	4.7, 4	3.8, 8	8.4,17	6.1, 7	55.6

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Table 2 (continued)

Allocated Time and Percentage from the Teacher Logs
for Reading Skills General Objectives
Grade 5

School Type and Number	01 Phonic Analysis--Consonants	02 Phonic Analysis--Vowels	03 Phonic Analysis--Silent Letters	04 Structural Analysis	05 Vocabulary Meaning	06 Map Skills	07 Graph and Table Skills	08 Reference Skills	09 Word Meaning Skills	10 Sentence Meaning Skills	11 Passage Meaning Skills	12 General Reading	Total Allocated Time
	Content Code and Description (Hours, %)												
	Period D												
IGE/WDRSD													
466 6		1.5.10		6.0,39			0.5, 3	2.0,13			4.0,26		14.0
451 6								4.5,54					4.5
476 8				0.8, 2					8.2,18	2.0, 4	24.9,55	1.6, 4	37.5
507 8							21.3,48	11.2,25		6.2,14	5.0.11		43.7
Mean		0.4, 2		1.7,10			5.4,13	4.4,23	2.0, 4	2.0, 4	8.5,23	0.4, 1	24.9
IGE/Non-WDRSD													
372 6	2.8, 2	3.8, 3		16.4,12	3.6, 3	0.5, 0+	0.1, 0+	5.2, 4	28.4,21	1.7, 1	21.9,16	48.2,36	132.6
410 6				4.0, 4			1.0, 1	34.5,34	10.0,10			31.4,31	80.9
493 8	0.6, 0+			7.0, 6	2.2, 2	1.2, 1	0.5, 0+	7.2, 6	5.7, 5	3.2, 3	15.3,14	67.2,59	110.1
Mean	1.1, 1	1.3, 1		9.1, 7	1.9, 2	0.6, 0+	0.5, 0+	15.6,15	14.7,12	1.6, 1	12.4,10	48.9,42	107.9
Non-IGE/WDRSD													
900 8						12.0,38	1.5, 5	12.0,38					25.5
902 11						9.0,12	16.0,22				45.0,61		70.0
901 6		0.5, 0+		22.0,21		9.5, 9	2.5, 2	23.5,23	9.6, 9	0.8, 1	12.0,12	16.7,16	97.1
903 -	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean		0.2, 0+		7.3, 7		10.2,20	6.7,10	11.8,20	3.2, 3	0.3, 0+	19.0,24	5.6, 5	64.2

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Table 2 (continued)

Allocated Time and Percentage from the Teacher Logs
for Reading Skills General Objectives
Grade 5

School Type and Number	01 Phonic Analysis--Consonants	02 Phonic Analysis--Vowels	03 Phonic Analysis--Silent Letters	04 Structural Analysis	05 Vocabulary Meaning	06 Map Skills	07 Graph and Table Skills	08 Reference Skills	09 Word Meaning Skills	10 Sentence Meaning Skills	11 Passage Meaning Skills	12 General Reading	Total Allocated Time
	Content Code and Description (Hours, %)												
	Period 5												
IGE/WDRSD													
466 6		2.0,17		3.0,26				1.5,13			3.0,26	0.5, 4	10.0
451 10								9.0,40				8.0,36	17.0
476 8								0.8, 2	18.2,38		4.5, 9	20.8,44	44.3
507 8							25.4,81	5.4,17					30.8
Mean		0.5, 4		0.8, 6			6.4,20	4.2,18	4.6,10		1.9, 9	7.3,21	25.5
IGE/Non-WDRSD													
372 6	0.7, 0+	1.0, 1		26.1,19	1.9, 1		0.1, 0+	7.1, 5	34.4,25	2.1, 2	26.7,19	39.5,28	139.6
410 6		3.0, 3		8.7, 8	6.9, 6			2.0, 2	13.7,13		3.5, 3	63.7,61	100.6
493 8				3.6, 3	1.6, 1		1.3, 1	6.8, 6	4.2, 4	3.2, 3	5.6, 5	83.0,72	109.3
Mean	0.2, 0+	1.3, 1		12.8,10	3.2, 3		0.4, 0+	5.3, 4	17.4,14	1.8, 2	11.9, 9	62.1,54	116.5
Non-IGE/WDRSD													
900 8				0.5, 5					1.5,15				2.0
902 11						8.0,29					18.0,65		26.0
901 6		1.0, 1		0.7, 0+		3.3, 3	1.7, 1	25.5,22	38.3,33	2.6, 2	12.5,11	24.0,21	109.6
903 6											18.3,98		18.3
Mean		0.2, 0+		0.3, 1		2.8, 8	0.4, 0+	6.4, 6	10.0,12	0.6, 0+	12.2,44	6.0, 5	39.0

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Table 2 (continued)

Allocated Time and Percentage from the Teacher Logs
for Reading Skills General Objectives
Grade 3

Content Code
and Description
(Hours, %)

School Type and Number	01 Phonic Analysis--Consonants	02 Phonic Analysis--Vowels	03 Phonic Analysis--Silent Letters	04 Structural Analysis	05 Vocabulary Meaning	06 Map Skills	07 Graph and Table Skills	08 Reference Skills	09 Word Meaning Skills	10 Sentence Meaning Skills	11 Passage Meaning Skills	12 General Reading	Total Allocated Time
Period F													
IGE WDRSD													
466 6		2.5,15									10.0,61	2.5,15	15.0
451 13								9.0,38			9.0,38		18.0
476 8						1.9, 5	1.8, 5	1.2, 3		9.0,25	18.0,25	2.5, 7	34.4
507 8							5.0,12		26.2,64		8.2,20		39.4
Mean		0.6, 4				0.5, 1	1.7, 4	2.6,10	6.6,16	2.2, 6	11.3,42	1.2, 6	26.7
IGE/Non-WDRSD													
372 6	2.2, 2	1.0, 1		10.5, 9		0.5, 0+	0.1, 0+	4.5, 4	37.8,33	3.4, 3	19.4,17	31.5,28	110.9
410 6		2.1, 2	0.8, 1	6.8, 7	5.2, 5	2.0, 2		3.6, 4	11.4,12		11.2,11	51.8,53	94.9
493 8	0.4, 0+	0.2, 0+		3.7, 4	2.1, 2	4.3, 4		12.8,12	8.2, 8	1.6, 2	6.0, 6	58.3,56	97.6
Mean	0.0, 1	1.1, 1	0.3, 0+	7.0, 7	2.4, 2	2.3, 2	0.0, 0+	7.0, 7	19.1,18	1.7, 2	12.2,11	47.2,46	101.1
Non-IGE/WDRSD													
900 8							6.8,20	20.6,61					27.4
902 15						10.0,12	16.5,20		27.0,32		30.0,36		83.5
901 6		1.3, 2				3.2, 4	7.8,10	13.7,18	9.2,12	4.7, 6	12.7,16	21.5,28	74.1
903 7									6.2,25	1.0, 4	16.4,67		23.6
Mean		0.3, 0+				3.3, 4	7.8,12	8.6,20	10.6,17	1.4, 2	14.8,30	5.4,28	52.2

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Table 2 (continued)

Allocated Time and Percentage from the Teacher Logs
for Reading Skills General Objectives
Grade 3

Content Code
and Description
(Hours, %)

School Type and Number	01 Phonic Analysis--Consonants	02 Phonic Analysis--Vowels	03 Phonic Analysis--Silent Letters	04 Structural Analysis	05 Vocabulary Meaning	06 Map Skills	07 Graph and Table Skills	08 Reference Skills	09 Word Meaning Skills	10 Sentence Meaning Skills	11 Passage Meaning Skills	12 General Reading	Total Allocated Time
Period 6													
IGE/WDRSD													
466 6			6.0,32				8.2,43					2.5,13	16.7
451 8								9.0,38			9.0,38		18.0
476 8								3.0, 7		1.0, 2	6.7,16	23.2,56	33.9
507 8						18.8,40		1.7, 4	10.7,23		15.0,32		46.2
Mean			1.5, 8			4.7,10	2.0, 11	3.4,12	2.7, 6	0.2, 0+	7.7,22	6.4,17	28.7
IGE/Non-WDRSD													
372 6	3.6, 2	0.5, 0+		12.6, 8	0.3, 0+	1.5, 1	0.2, 0+	7.1, 4	54.4,33	2.4, 1	28.6,17	49.0,30	160.2
410 6				1.5, 1	1.5, 1			7.1, 5	27.8,21	2.0, 2	8.8, 7	73.2,55	121.9
493 8	1.5, 1	2.4, 2		0.9, 1	0.9, 1	0.8, 0+		3.3, 2	1.6, 1	1.8, 1	4.5, 3	100.5,67	117.3
Mean	1.7, 1	1.0, 1		5.0, 3	0.9, 0+	0.5, 0+	0.1, 0+	5.8, 4	32.8,18	2.1, 1	14.0, 9	74.2,51	133.1
Non-IGE/WDRSD													
900 8						8.8,27	3.9,12	10.4,32					23.1
902 12							47.0,56		25.0,30		9.0,11		81.0
901 6				2.2, 2		4.8, 4	13.2,10	8.4, 7	23.0,18	21.7,17	9.1, 7	36.4,29	118.8
903 6											19.2,96		19.2
Mean				0.6, 0+		3.4, 8	21.4,20	4.7,10	12.0,12	5.4, 4	9.3,28	9.1, 7	60.5

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Study Skills with some time allocated by two of the schools to Comprehension: Word Meaning Skills. As at Grade 2, the IGE/non-WDRSD schools allocated time to a wide range of general objectives, while the non-IGE/WDRSD schools allocated time to Study Skills and Comprehension general objectives. In addition there was some variation among schools within each of the three groups.

Over the seven periods the general pattern of allocated time over the general objectives remained the same for IGE/non-WDRSD and non-IGE/WDRSD schools. The latter, however, generally allocated more time to Comprehension throughout the periods surveyed.

Math, Grade 2. In Period A (Table 3), the largest percentage of time for the DMP schools, IGE and non-IGE, was allocated to word problems. The rest of the time for IGE/DMP schools was allocated to two or three of the other objectives depending upon the school. For non-IGE/DMP schools, in addition to word problems, time was generally allocated to addition/subtraction and to geometry. It is interesting that a large percentage of time for all of the IGE/non-DMP schools was allocated to addition/subtraction. School 428 also allocated some time to measurement and geometry and School 421 allocated some time to a number of other objectives, but mainly to addition/subtraction and miscellaneous objectives (e.g. money). Although there are variations among schools in each group the differences among the groups as to the manner in which time was allocated are striking, particularly between DMP and non-DMP schools with respect to the allocation of time to word

Table 3

Allocated Time and Its Variance from the Teachers' Logs
for Mathematics Content Areas
(Hours, SD)

School Type and Number	01 Writing Numbers	02 Inequalities	03 Other Place Value or Numeration	04 Addition/ Subtraction	05 Multiplication	06 Fractions	07 Measurement	08 Word Problems	09 Applications	10 Geometry	11 Miscellaneous	Total Allocated Time
Period A												
IGE/DMP												
410 8	13.0,21		.9,2	2.0, 3				25.2,41		20.0,33		61.2
593 8	12.2,14	.7, 1		26.8,30				42.2,47	2.3, 3		5.0, 6	89.2
Mean	12,6,18	.3, 1	.4,1	14.4,16				33.7,44	1.2, 1	10.0,16	2.5, 3	75.2
IGE/Non-DMP												
428 6				7.6,76			.8, 8			1.5,15	.0, 0+	10.0
421 9	1.3, 2		1.5, 3	23.3,42			4.5, 8	.3, 0+		1.0, 2	23.8,43	55.8
333 6				29.0,100								29.0
Mean	.4, 1		.5, 1	20.0,73			1.8, 5	.1, 0+		.82,6	8.0,14	31.6
Non-IGE/DMP												
904 6				3.0, 7				23.6,55	3.8, 9	12.5,29		42.8
906 6								53.2,82		12.1,18		65.3
762 13				14.6,34				13.3,31		15.2,35		43.2
Mean				5.9,14				30.0,56	1.2, 3	13.3,27		50.4

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Table 3 (continued)

...ated Time and Percentage Errors on the Posttest Test for Mathematics Concepts Objectives ...

...ubject Code and Description

(Hours, ...)

School Type and Number	01 Writing Numbers	02 Inequalities	03 Other Place Value or Numeration	04 Addition Subtraction	05 Multiplication	06 Fractions	07 Measurement	08 Word Problems	09 Applications	10 Geometry	11 Miscellaneous	Total Allocated Time
					Period B							
IGE DMP												
440 8	10.0,16			8.8,13				23.2,38		19.7,32		60.8
503 8	50.9,49	2.3, 2	10.3,10	14.8,14		2.3, 2	1.7, 2	6.0, 6	4.3, 4		11.2,11	103.8
Mean	30.4,32	1.2, 1	5.2, 5	11.4,14		1.2, 1	0.8, 1	41.6,22	2.2, 2	9.8,16	5.6, 6	82.3
IGE/Non-DMP												
428 6	7.2,11	12.5,19	4.2, 6	26.7,40		0.2, 0+	9.4,14	5.2, 8			1.1, 2	66.4
421 8	1.2, 2		9.8,15	42.2,64	0.3, 0+			1.7, 3			10.7,16	65.8
333 6				29.4,67						14.5,33		43.9
Mean	2.8, 4	4.2, 6	4.6, 7	32.8,57	0.1, 0+	0.1, 0+	3.1, 4	2.3, 4		4.8,11	3.9, 6	58.7
Non-IGE/DMP												
904 6	17.4,40			10.7,25				15.0,35				43.1
906 6	15.5,25							46.8,75				62.3
762 12		2.0, 2		73.0,69				18.5,17		12.2,12		105.8
Mean	11, 22	0.7, 1		27.9,31				26.8,42		4.1, 4		70.4

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Table 3 (continued)

Allocated Time and Percentage from the Instant Data for Mathematics Content Objectives
Grade 2

Content Code and Description

(Hours, %)

Subject Type and Number	01 Writing Numbers	02 Inequalities	03 Other Place Value or Numeration	04 Addition Subtraction	05 Multiplication	06 Fractions	07 Measurement	08 Word Problems	09 Applications	10 Geometry	11 Miscellaneous	Total Allocated Time
Period C												
IGE/DMP												
440 8	24.7,28			31.0,35				32.7,37				88.3
593 8	26.8,30	4.0, 4		30.9,35			2.3, 3	8.2, 9			17.3,19	89.6
Mean	25.9,29	2.0, 2		31.0,35			1.3, 2	20.4,23			8.6,10	89.0
IGE/Non-DMP												
428 6				6.2,42							8.5,58	14.8
421 8	0.5, 0+		31.1,33	45.2,48	1.8, 2	1.2, 1	9.2,10				4.8, 5	93.8
333 6			9.0,17	42.7,83								51.7
Mean	0.2, 0+		13.4,17	31.4,58	0.6, 1	0.4, 0+	3.1, 3				4.4,21	53.4
Non-IGE/DMP												
904 6	8.5,21	10.5,26		15.6,39				5.7,14				40.3
906 6	23.3,25							59.0,63	11.0,12			93.3
762 12	17.5,23		2.0, 3	28.2,37	0.7, 1			28.4,37				76.8
Mean	16.4,23	3.5, 9	0.7, 1	14.6,25	0.2, 0+			31.0,38	3.7, 4			70.1

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(continued)

(hours)

School Type and Number	02 Writing Numbers	03 Inequalities	1 Inter Place Value or Numeration	04 Addition Subtraction	05 Classification	06 Fractions	07 Measurement	08 Word Problems	9 Applications	10 Geometry	11 Numeration	Total Allocated Time
Period D												
IGE DMP												
140 8	46.7,60	3.4, 5		1.4, 2			4.7, 6	11.8,15		9.5,12		77.7
593 8	12.2.12		1.7, 2	69.5,66			1.7, 2	12.7,12			7.5, 7	105.2
Mean	29.4,36	1.8, 2	0.8, 1	35.4,34			3.2, 4	12.2,14		4.8, 6	3.8, 4	91.4
IGE Non-DMP												
428 6		3.0, 8	3.5,10	15.2,42				0.5, 1		3.8,10	10.0,28	36.0
421 8		0.3, 0+	17.2,27	22.7,35	1.5, 2	10.8,17	0.2, 0+	0.8, 1			11.3,18	64.8
333 6				16.9,42		14.0,37	8.0,21					38.0
Mean		1.1, 3	6.9,12	18.0,40	0.5, 1	8.3,18	2.7, 7	0.4, 1		1.3, 3	7.1,15	46.3
Non-IGE/ DMP												
904 6	2.0, 5	2.0, 5		27.7,73		6.0,16						37.7
906 6	15.0,19	31.7,40		18.0,23				13.0,16	2.0, 3			79.7
762 12				27.6,30	6.0, 7			25.2,28		32.0,35		90.8
Mean	5.7, 8	11.2,15		24.4,42	2.0, 2	2.0, 5		12.7,15	0.7, 1	10.7,12		69.4

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Table 3 (continued)

Allocated Time and Contents from the Teacher's Log for Numerical Operations
Grade 2

School Type and Number	01 Writing Numbers	02 Inequalities	03 Other Place Value or Numeration	04 Addition Subtraction	05 Multiplication	06 Fractions	07 Measurement	08 Word Problems	09 Applications	10 Geometry	11 Miscellaneous	Total Allocated Time
	Period 8											
IGE/DMP												
410 8	7.1,11	0.8, 1	1.1, 2	17.8,27			11.7,18	25.1,39	1.3, 2			64.9
593 8	1.3, 1			82.5,66		2.2, 2	1.5, 1	22.5,18	3.7, 3		12.0,10	125.8
Mean	4.2,6	0.4, 0+	0.6, 1	50.2,46		1.1, 1	6.6,10	23.8,28	2.5, 2		6.0, 5	95.4
IGE/Non-DMP												
428 6	3.8, 8	6.8,14		25.6,54				0.5, 1			10.8,23	47.6
421 9			7.5,13	17.3,29		19.2,32	4.5, 8			7.3,12	3.5, 6	59.3
333 6	6.0,12	3.5, 7	8.5,17	29.5,58							3.0, 6	50.5
Mean	3.3, 7	3.4, 7	5.3,10	24.1,47		6.4,11	1.5, 3	0.2, 0+		2.4, 4	5.8,12	52.5
Non-IGE/DMP												
904 6				21.7,45		26.0,55						47.7
906 6				69.3,75		23.0,25						92.3
762 13	48.0,33			57.3,39	12.2, 8			15.5,11		3.3, 2	10.7, 7	146.9
Mean	16.0,11			49.4,53	4.1, 3	16.3,27		5.2, 4		1.1, 1	3.6, 2	95.6

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Table 1 (continued)

Allocated Time and Percentage from the Textbook Units
for Mathematics Activities
Grade

Content Units
and Instruction
(Hours, %)

School Type and Number	01 Writing Numbers	02 Inequalities	03 Other Place Value or Numeration	04 Addition Subtraction	05 Multiplication	06 Fractions	07 Measurement	08 Word Problems	09 Applications	10 Geometry	11 Miscellaneous	Total Allocated Time
					Period F							
IGE/DMP												
410 8	32.5,47	10.0,15	2.1, 3	3.0, 4				1.6, 2	0.4, 1		19.0,28	68.6
593 8	10.2, 8	1.0, 1	2.0, 2	41.1,33		2.7, 2	9.8, 8	28.7,23	2.2, 2		28.0,22	125.6
Mean	21.4,28	5.5, 8	2.0, 2	22.0,18		1.4, 1	4.9, 4	15.2,12	1.3, 2		23.5,25	97.1
IGE/Non-DMP												
428 6		0.3, 1	1.0, 2	18.3,39			1.2, 2	1.2, 3		1.2, 2	23.6,50	46.8
421 8			7.2,13	19.7,35		1.0, 2	7.4,13		1.0, 2	7.8,14	11.8,21	56.0
333 6				19.0,42			4.0, 9				22.0,49	45.0
Mean		0.1, 0	2.7, 5	19.0,39		0.3, 1	4.2, 8	0.4, 1	0.3, 1	3.0, 5	19.1,40	49.3
Non-IGE/DMP												
904 6	1.0, 3	0.5, 1		37.3,94		0.5, 1		0.5, 1				39.8
906 6	3.5, 6			3.0, 5		35.0,61		11.5,20	4.0, 7			57.0
762 12				20.8,18	4.5, 4	45.2,39		9.0, 8		18.0,15	19.0,16	116.5
Mean	1.5, 3	0.2, 0		20.4,39	1.5, 1	26.9,34		7.0,10	1.3, 2	6.0, 5	6.3, 5	71.1

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Table 5 (continued)

[illegible] and Time and Percentage Scores for Students [illegible]
for Mathematics Concepts Objectives
Grade 4

School Type and Number	01 Writing Numbers	02 Inequalities	03 Other Place Value or Numeration	04 Addition Subtraction	05 Multiplication	06 Fractions	07 Measurement	08 Word Problems	09 Applications	10 Geometry	11 Variable Language	Total Accuracy & Time
					Period G							
IGE/DMP												
440 8	15.2,23			33.2,51		5.8, 9	7.5,12				3.0, 5	64.6
593 8				46.7,43		5.4, 5	24.3,22	11.3,10	5.0, 5		16.9,15	109.6
Mean	7.6,12			40.0,47		5.6, 7	15.9,17	5.6, 5	2.5, 2		10.0,10	87.1
IGE/Non-DMP												
428 6	8.1,14	1.0, 2		33.3,56	8.3,14	2.5, 4	2.5, 4			3.1, 5	0.8, 1	59.7
421 8			1.0, 2	32.1,54		0.4, 1		3.1, 5	5.8,10		17.2,29	59.6
333 6	2.0, 5	1.0, 2	1.5, 4	22.0,54	14.0,35							40.5
Mean	3.4, 6	0.7, 1	0.8, 2	29.1,55	7.4,16	1.0, 2	0.8, 1	1.0, 2	1.9, 3	1.0, 2	6.0,10	53.3
Non-IGE/DMP												
904 6		6.7,14		14.8,32			0.8, 2	12.7,28	1.0, 2		10.0,22	46.0
906 6	4.0, 4			68.0,68				23.2,23	4.5, 5			99.7
762 12	5.6, 4	18.0,12	2.3, 2	43.0,28	7.5, 5	54.3,36		11. 2, 7			9.8, 6	151.8
Mean	3.2, 3	8.2, 9	0.8, 1	41.9,43	2.5, 2	18.1,12	0.3, 1	15 .7,19	1.8, 2		6.6, 9	99.2

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problems, addition/subtraction, and geometry.

Over the seven periods both IGE and non-IGE DMP schools increased the percentage of the allocated to addition/subtraction. Less time was spent on word problems and, for Periods B and C, more time was spent on writing numbers. The percentage of time allocated to addition/subtraction by the IGE/non-DMP school varied very little from period to period. The remaining time for these schools was distributed over three or four of the other objectives. All of the schools allocated some time to geometry over the period of investigation except for IGE/DMP School 593. All of the DMP schools, except for School 762, allocated some time to applications. Only one IGE/non-DMP school, School 421, allocated any time to applications. Thus, the main differences appear to be between DMP and non-DMP schools rather than IGE and non-IGE schools.

Math, Grade 5. In Period A (Table 4), both IGE/DMP schools allocated a significant amount of time to addition/subtraction, multiplication and division, while the IGE/non-DMP schools varied by school as to the way in which time was allocated. Most of the math time was allocated to division at School 428 and to multiplication and geometry at School 333. Almost all of the time at the non-IGE/DMP schools was allocated to multiplication. Thus, in Period A most of the time was allocated to whole number computations.

Over the other periods, IGE/DMP schools allocated time first to division (Period B and C) and then to fractions or decimals. The two

Table 4

Allocated Time and Percentage from the Teacher Logs
for Mathematics General Objectives
Grade 5

Content Code
and Description
(Hours, %)

School Type and Number	01 Addition Subtraction	02 Multiplication	03 Division	04 Fractions--Concepts	05 Fractions--Computation	06 Decimal Fractions--Concept	07 Decimal Fractions--Computation	08 Measurement	09 Word Problems	10 Applications	11 Geometry	12 Miscellaneous	Total Allocated Time
Period A													
IGE DMP													
440 8	15.9, 20	40.7, 50	21.6, 27									3.1, 4	81.2
503 8	24.0, 36		42.6, 64										66.6
Mean	20.0, 28	20.4, 25	32.1, 46									1.6, 2	73.9
IGE Non-DMP													
420 6	0.2, 0+	3.5, 6	39.6, 70	0.8, 1			4.2, 7		2.7, 5			5.7, 10	56.7
333 6		11.6, 48									12.5, 52		24.1
Mean	0.1, 0+	7.6, 27	19.8, 35	0.4, 0+			2.1, 4		1.4, 2		6.2, 26	2.8, 5	40.4
Non-IGE DMP													
9.5 6		52.8, 100											52.8
906 8		74.6, 93	0.5, 1	4.0, 5							0.5, 1	0.5, 1	80.1
Mean		63.7, 96	0.2, 0+	2.0, 2							0.2, 0+	0.2, 0+	66.4

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Table 4 (continued)

Allocated Time and Percentage from the Teacher Logs
for Mathematics General Objectives
Grade 5

School Type and Number	01 Addition/ Subtraction	02 Multi-plication	03 Division	04 Fractions--Concepts	05 Fractions--Computation	06 Decimal Fractions--Concept	07 Decimal Fractions--Computation	08 Measure-ment	09 Word Problems	10 Applications	11 Geometry	12 Miscel-laneous	Total Allocated Time
	Content Code and Description (Hours, %)												
	Period B												
IGE/DMP													
440 8	0.9, 1	34.0,36	39.6,42						8.2, 9	0.5, 0+		11.5,12	94.7
593 8			72.5,81				17.2,19						89.8
Mean	0.4, 0+	17.0,18	56.0,62				8.6,10		4.1 4	0.2, 0+		5.8, 6	92.2
IGE/Non-DMP													
428 6	1.1, 1	12.9,15	21.1,24	9.2,11	5.0, 6		0.5, 0+	4.7, 5	6.7, 8	4.7, 5	1.5, 2	20.7,23	88.0
333 6		24.7,29	20.8,24								22.2,26	17.8,21	85.4
Mean	0.6, 0+	18.8,22	21.0,24	4.6, 6	2.0, 3		0.2, 0+	2.4, 2	3.4, 4	2.4, 2	11.8,14	19.2,22	86.7
Non-IGE/DMP													
905 6		47.9,94							3.0, 6				50.9
906 8	0.9, 1	60.8,61	37.8,38										99.5
Mean	0.4, 0+	54.4,78	18.9,19						1.5, 3				75.2

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Table 4 (continued)

Allocated Time and Percentage from the Teacher Logs
for Mathematics General Objectives
Grade 5

School Type and Number	01 Addition/ Subtraction	02 Multi- plication	03 Division	04 Fractions-- Concepts	05 Fractions-- Computation	06 Decimal Fractions-- Concept	07 Decimal Fractions-- Computation	08 Measure- ment	09 Word Problems	10 Applications	11 Geometry	12 Miscel- laneous	Total Allocated Time
	Content Code and Description (Hours, %)												
	Period C												
IGE/DMP													
440 8	2.3, 2	9.3, 9	39.9,37	23.8,22	8.7, 8				8.4, 8	9.0, 8		7.1, 7	108.5
503 8			30.0,37				52.1,63						82.1
Mean	1.2, 1	4.6, 4	35.0,37	11.9,11	4.4, 4		26.0,32		4.2, 4	4.5, 4		3.6, 4	95.3
IGE/Non-DMP													
428 6	0.2, 1	3.0,16	0.3, 2		2.5,14			2.3,13	0.4, 2			9.7,52	18.5
333 6		0.8, 1	39.5,47	25.5,30	6.5, 8						2.5, 3	10.0,12	84.8
Mean	0.1, 0+	1.9, 8	19.9,24	12.8,15	4.5,11			1.2, 6	0.2, 1		1.2, 2	9.8,32	51.6
Non-IGE/DMP													
905 7		29.7,47	29.9,47						3.8, 6				63.3
906 8	5.2, 4	0.3, 0+	79.5,68	1.3, 1				28.0,24			2.8, 2		117.1
Mean	2.6, 2	15.0,24	54.7,58	0.6, 0+				14.0,12	1.9, 3		1.4, 1		90.2

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Table 4 (continued)

Allocated Time and Percentage from the Teacher Logs
for Mathematics General Objectives
Grade 5

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Content Code
and Description
(Hours, %)

School Type and Number	01 Addition/ Subtraction	02 Multi-plication	03 Division	04 Fractions-- Concepts	05 Fractions-- Computation	06 Decimal Fractions-- Concept	07 Decimal Fractions-- Computation	08 Measure-ment	09 Word Problems	10 Applications	11 Geometry	12 Miscel-laneous	Total Allocatid Time
Period D													
IGE/DMP													
440 8		0.1, 0+	8.6, 7	93.4,78	15.0,13				2.8, 2				119.8
580 8			5.8, 8				43.8,59					24.7,33	74.2
Mean		0+	7.2, 8	46.7,39	7.5, 6		21.9,30		1.4, 1			12.4,16	97.0
IGE/Non-DMP													
428 6	0.9, 2	2.0, 3	4.2, 7	0.8, 1	0.4, 1	12.9,22	25.3,43	7.8,13	0.4, 1	0.2, 0+	0.5, 1	3.8, 6	59.2
333 6		1.2, 2	13.4, 20	8.2,12	23.8,35				19.3,28			2.5, 4	68.5
Mean	0.4, 1	1.6, 2	8.8,14	4.5, 6	12.1,18	6.4,11	12.6,22	3.9, 6	9.8,14	0.1, 0+	0.2, 0+	3.2, 5	63.8
Non-IGE/DMP													
905 6		1.2, 2	52.3,96									1.0, 2	54.5
906 8	1.5, 1	4.1, 4	25.2,25	43.1,42				17.2,17			1.0, 1	10.0,10	102.1
Mean	0.8, 0+	2.6, 3	38.8,60	21.6,21				8.6, 8			0.5, 0+	5.5, 6	78.3

Table 4 (continued)

Allocated Time and Percentage from the Teacher Logs
for Mathematics General Objectives
Grade 5

School Type and Number	01 Addition/ Subtraction	02 Multi-plication	03 Division	04 Fractions-- Concepts	05 Fractions-- Computation	06 Decimal Fractions-- Concept	07 Decimal Fractions-- Computation	08 Measure-ment	09 Word Problems	10 Applications	11 Geometry	12 Miscel-laneous	Total Allocated Time
	Content Code and Description (Hours, %)												
	Period E												
IGE/DMP													
440 10		1.6, 1	10.6, 9	58.8,49	39.2,33		0.7, 0+	4.6, 4		2.7, 2	1.8, 1		119.8
593 8				23.6,27			63.9,73					0.5, 0+	88.0
Mean		0.8, 0+	5.3, 9	41.2,38	19.6,16		32.3,36	2.3, 2		1.4, 1	0.9, 0+	0.2, 0+	103.9
IGE/Non-DMP													
428 6	1.2,1	11.2,12	8.3, 9	43.9,48	0.7, 1	2.0, 2	1.4, 2	3.2, 3	5.2, 6		8.2, 9	7.0, 8	92.3
333 6			3.3, 4		47.9,50				9.5,10		34.2,36		94.9
Mean	0.6, 0+	5.6, 6	5.8, 6	22.0,24	24.3,26	1.0, 1	0.7, 1	1.6, 2	7.4, 8		21.2,22	3.5, 4	93.6
Non-IGE/DMP													
905 6	0.5, 1	0.5, 1	8.4,10	36.2,44	35.8,44								81.4
906 8		2.8, 3	11.9,12	45.8,45	23.8,23			1.7, 2	8.7, 8	4.0, 4	2.2, 2	2.0, 2	102.9
Mean	0.2, 0+	1.6, 2	10.2,11	41.0,44	29.8,34			0.8, 1	4.4, 4	2.0, 2	1.1, 1	1.0, 1	92.2

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Table 4 (continued)

Allocated Time and Percentage from the Teacher Logs
for Mathematics General Objectives
Grade 5

School Type and Number	01 Addition/ Subtraction	02 Multi-plication	03 Division	04 Fractions--Concepts	05 Fractions--Computation	06 Decimal Fractions--Concept	07 Decimal Fractions--Computation	08 Measure-ment	09 Word Problems	10 Applications	11 Geometry	12 Miscel-laneous	Total Allocated Time
Content Code and Description (Hours, %)													
Period F													
IGE/DMP													
440 8		0.2, 0+	0.6, 0+	28.7,25	28.8,25	2.7, 2	3.3, 3	26.7,23		1.5, 1		23.2,20	115.7
593 8				45.8,61		8.5,11	6.0, 8					14.3,19	74.7
Mean		0.1, 0+	0.3, 0+	37.2,43	14.4,12	5.6, 6	4.6, 6	13.4,12		0.8, 0+		18.8,20	95.2
IGE/Non-DMP													
428 6	1.5, 2	11.1,16	15.5,22	26.0,37	4.0, 6	0.8, 1	2.3, 3		1.2, 2		1.5, 2	7.3,10	71.2
333 6			0.7, 1		12.1,19						31.2,48	20.7,32	64.7
Mean	0.8, 1	5.6, 8	8.1,12	13.0,18	8.0,12	0.4, 0+	1.2, 2		0.6, 1		16.4,25	14.0,21	68.0
Non-IGE/DMP													
905 6		1.5, 2		14.2,15	71.4,78				5.0, 5				92.1
906 8	0.5, 1		1.8, 3	3.2, 5	53.8,88			2.0, 3					61.2
Mean	0.2, 0+	0.8, 1	0.9, 2	8.7,10	62.2,83			1.0, 2	2.5, 2				76.6

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Table 4 (continued)

Allocated Time and Percentage from the Teacher Logs
for Mathematics General Objectives
Grade 5

Content Code
and Description
(Hours, %)

School Type and Number	01 Addition/ Subtraction	02 Multi-plication	03 Division	04 Fractions-- Concepts	05 Fractions-- Computation	06 Decimal Fractions-- Concept	07 Decimal Fractions-- Computation	08 Measure-ment	09 Word Problems	10 Applications	11 Geometry	12 Miscel-laneous	Total Allocated Time
Period 6													
IGE/DMP													
440 8	2.2, 2	2.3, 2	14.7,13	30.6,28	22.4,20			8.9, 8		1.0, 1	27.8,25		110.0
593 8				40.8,52	37.6,48								78.4
Mean	1.1, 1	1.2, 1	7.4, 6	35.7,40	30.0,34			4.4, 4		0.5, 0+	13.9,12		94.2
IGE/Non-DMP													
428 6	0.4, 0+	7.4, 7	11.1,10	25.4,24	38.2,36	0.8, 1	5.2, 5	1.3, 1	2.8, 3	1.8, 2	10.4,10	2.2, 2	107.2
333 6					15.3,17		17.8,20				14.5,17	40.2,46	87.8
Mean	0.2, 0+	3.7, 4	5.6, 5	12.7,12	26.8,26	0.4, 0+	11.5,12	0.6, 0+	1:4, 2	0.9, 1	12.4,14	21.2,24	97.5
Non-IGE/DMP													
905 6	3.0, 4	2.8, 4	1.5, 2		13.0,17	1.5, 2	13.5,18		10.5,14		25.0,33	4.2, 6	74.9
906 8	2.0, 2	1.0, 1	4.2, 4	6.0, 5	38.5,33	35.6,30	12.0,10	5.2. 4	3.7, 3	4.2, 4	5.3, 4		117.7
Mean	2.5, 3	1.9, 2	2.8, 3	3.0, 2	25.8,25	18.6,16	12.8,14	2.6, 2	7.1, 8	2.1, 2	15.2,18	2.1, 3	96.3

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IGE/non-DMP schools varied in the sequence of content covered over the seven periods. Time was allocated to a range of objectives during each period at School 428.. At School 333, time was first allocated to multiplication, division, and geometry (Period B), then to division, fractions, and word problems, and finally to miscellaneous topics in Period C. The non-IGE/DMP schools allocated time first to multiplication, then division (Period B and C) and fractions (Period D, E, F and G), and finally to decimals (Period G). At both of the non-IGE/DMP schools time generally was allocated to a range of objectives.

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